

52, 53, 62, and 63 correspond respectively to former claims 15, 25, 23, 24, 27, 35, and 37. Corresponding dependency of the dependant claims has been maintained.

Further with respect to resolving the on-going technical discussion regarding the compounds of the references cited of record, the poly (tetramethylene adipate) PTMA of the present invention, some additional explanation is offered. In this regard, the applicant remains convinced that Chi '938 does not disclose the poly (tetramethylene adipate) PTMA compound of the present invention nor does he recognize or appreciate the marked improvements in performance, which combine reduced energy with excellent mechanical properties, and including the benefits of using higher molecular weight PTMA.

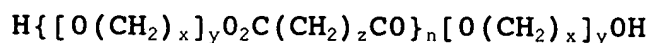
The Examiner has agreed that, as previously shown, the Chi '938 reference does not disclose the PTMA compound. Applicant respectfully transverses the conclusion that Chi renders this compound obvious.

Please note, for example, that according to Chi's definition (beginning at line 4 of column 5), "polyglycol adipates" are polyesters of a polyalkylene glycol (whose alkylene moieties each contain from 1 to about 6 carbon atoms), preferably polydiethylene glycol, and an alkanedioic acid having from about 2 to 12 carbon atoms, preferably adipic acid. (Emphasis added) Chi then goes on to say that the polyethylene glycol (which is identical to polydiethylene glycol) moieties each have a molecular weight of from 2000 to 3000, preferably about 3000.

Thus, the examiner's understanding of Chi's definition of "polyglycol adipates" (from the Advisory Action dated January 18, 2000):

"HO{[(CH<sub>2</sub>)<sub>x</sub>-O]<sub>y</sub>}<sub>z+1</sub>{adipate}", where "x = 1-6, as to "x" and "y"; z+1 means OH terminated" is incomplete in that it does not include the limits for y. This is necessary because according to Chi "polyglycol adipates" are polyesters of a polyalkylene glycol (and he provides the examples of polydiethylene glycol, and also polyethylene glycol with molecular weight of from 2000 to 3000) and an alkanedioic acid. The prefix "poly," when used in the name of a chemical substance, of course, is generally understood to mean "containing an indefinite number more than one of the specified monomer." Thus, y must be 2 or greater, and this, by definition, excludes PTMA of the present invention.

Thus Chi's definition of "polyglycol adipates" could be as follows:



where x = 1-6, y ≥ 2, z = 0-10, and n is undefined (x, y, z, and n are integers). X refers to the size of (number of carbon atoms in ) the alkylene moieties in the polyalkylene glycol. Y is the number of monomeric units in the polyalkylene glycol; (z+2) is the number of carbon atoms in the alkanedioic acid; n is the number of alkanedioic acid units in the polyester; and (n + 1) is the number of polyalkylene glycol units in the polyester. (This interpretation assumes that all alkyl units in the polyester are

linear, which would probably be best for use in an energetic composite but this is not exclusively necessary based on Chi's definition.)

Note that this yields, for Chi's preference,  $x = 2$ ,  $y = \sim 68$  (for about 3000 molecular weight polyethylene glycol moieties),  $z = 4$ , and  $n$  is unspecified, depending upon the molecular weight of the polyester. For PTMA,  $x = 4$ ,  $y = 1$ ,  $z = 4$ , and  $n$  depends upon molecular weight; for 6000 molecular weight PTMA,  $n \sim 30$ . For PGA,  $x = 2$ ,  $y = 2$ ,  $z = 4$ , and  $n$  depends upon the molecular weight of the PGA.

The Examiner has argued that the compound of the binder of the present invention, if not the same, is obvious over those disclosed by Chi and therefore not patentable. The applicant believes, however, that the applied prior art does not teach or suggest the claimed subject matter. A review of the teachings of the applied prior art fails to reveal any suggestion or motivation for a person having ordinary skill in the art at the time of invention was made to modify the compounds of Chi or substitute the compounds of the present invention for those of Chi and to arrive at the formula of the present invention as set forth by the Examiner in the previous rejection.

It is the view of the applicant that the suggestion for so modifying Chi in the matter proposed by the Examiner could only stem from hindsight knowledge derived from the applicant's own disclosure. It follows that the previous rejection of the claims should be withdrawn and the claims allowed. The Examiner is

requested to reconsider his previous position in view of this paper and previous submissions by the applicant.

Respectfully submitted,

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A handwritten signature in cursive script, appearing to read "C. G. Mersereau".

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